UNPUBLISHED PRELIMINARY DATA

UNIVERSITY OF CALIFORNIA

Department of Physics
Berkeley 4, California

February 15, 1965
Grant: NsG-387

Office of Grants and Research Contracts
Code SC
National Aeronautics and Space Administration
Washington 25, D. C.

Gentlemen:

During the period 1 August, 1964 to 31 January, 1965 activities under the NsG-387 grant included a continuing program of energetic particle detector development and evaluation. Tests were carried out on small size photomultipliers which are commercially available. Based on this study, we selected the optimum tube for the OGO-E solar high energy radiation experiment. The gain stability of these tubes under high counting rates and temperature variations has been evaluated. Small proportional counters have been purchased and studies are underway to evaluate their gain stability over long periods of time.

During this period work began on a rocket experiment to be carried out at Fort Churchill during late summer 1965. Detectors for these flights are being tested, power supplies and electronic circuits are being designed. This work is being carried out by a graduate student (Mr. Lampton) with assistance from an electronics engineer who is visiting our laboratory.

In August and September a series of balloon flights was carried out at Flin Flon, Canada. This work was supported jointly by NASA under this grant and by the ONR. The NASA portion of the work was concerned with the precise measurement of auroral zone X-ray energy spectra. Ten flights were launched but poor vehicle performance resulted in only six of these providing high altitude data. Excellent measurements of the energy spectrum were obtained during several kinds of auroral zone electron precipitation. A graduate student (Mr. Hudson) built and calibrated these instruments and is now analyzing the results.

A summary of the balloon flights is attached.

Personnel engaged on research supported by NASA Grant NsG-387 are:

Dr. Kinsey A. Anderson	Principal Investigator
Mr. Jerry Zenger	Associate Research Physicist
Mr. Hugh Hudson	Res. Asst. (Graduate Student)
Mr. Michael Lampton	Res. Asst. (Graduate Student)

Mr. Edmond Roelof (no salary)	Res. Asst. (Graduate Student)
Mr. Ronald Herman	Senior Electronics Technician
Mr. Arnold Miller	Senior Electronics Technician
Miss Erika Albrecht (half time)	Secretary-Stenographer
Miss Helen Nakamura (half time)	Laboratory Assistant

Sincerely yours,

Kinsey A. Anderson

Kinsey A. Anderson
Associate Professor
Principal Investigator

KAA:ea

1964 Flin Flon Flights

Flight No.	Date	Launch Time CDT	Ascent Rate FFM	Time Thru 100K, CDT	Duration Above 100K	Float Alt. K	Duration At Float Hrs.
3006 N	8-23	0643	590-83	1110	9 hr 02 m	110-100	7 hr 35 m
3007 N	8-25	0429	860-400	0704	12 hr 39 m	131-121	10 hr 00 m
3008 N	8-26	0500	500-0	----	----------	-------	----------*
3009 N	8-27	----	-----	----	----------	-------	----------**
3010 N	8-29	0444	1100-700	0633	11 hr 57 m	116-94	11 hr 02 m
3011 N	9-05	0415	600-0	----	----------	-------	----------***
3012 N	9-08	0427	1100-550	0605	13 hr 36 m	130-117	13 hr 00 m
3013 N	9-11	0025	1000-600	0207	13 hr 38 m	112-93	14 hr 25 m
3015 N	9-16	0454	1100-800	0641	11 hr 30 m	117-115	11 hr 12 m
3016 N	9-17	0144	1000-0	----	----------	-------	----------****

* Adverse launch conditions, lost lift, max. alt. 16 K

** Adverse launch conditions, rupture in launch arm

*** Lost lift, max. altitude 36 K

**** Lost lift, max. altitude 81 K